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THE CONDOR

A MAGAZINE OF WESTERN ORNITHOLOGY

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Volume XXIV **January-February, 1922** **Number 1**

[Issued January 25, 1922]

THE REDDISH EGRETS OF CAMERON COUNTY, TEXAS

By J. R. PEMBERTON

WITH NINE PHOTOS

DURING the month of May, 1921, I had an ever-to-be-remembered outing in the region between Brownsville and Point Isabel, Cameron County, Texas. The avifauna of this region is exceedingly interesting because of the presence of numerous species whose centers of distribution lie in Mexico. Austin Paul Smith in the Condor for May-June, 1910, gave an excellent description of the land birds but neglected to fulfill a promise of a later paper on the water birds. I found the water birds to be fully as interesting as the land birds.

The Mexican fishermen of Point Isabel upon learning that I was interested in bird life told me that I should visit Green Island, which they said was a breeding ground for all the species of water birds found thereabouts. They got me so excited that on May 9 I hired two of them to take me in their boat to the island. In pitch black darkness about three in the morning we started, with a good fast boat, a brisk fair wind, plenty of provisions and water. During the five hours it took to make the thirty miles to the island the fishermen told me many interesting facts concerning the region.

Green Island lies about thirty miles north along the coast from Point Isabel, the latter town being just north of the mouth of the Rio Grande River. The Gulf of Mexico proper is shut off from the mainland by a sand bar which parallels the coast for hundreds of miles, in fact from Vera Cruz to near Galveston. This sand bar lies from three to ten miles from the coast, the bar being nearly straight but the distance from the coast varying because of irregularities in the coast line. The mainland is extremely low in elevation, scarcely over 25 feet, and the sand bar likewise. Consequently there are spots within the Laguna de Madre, as the enclosed bay is called, from which neither the mainland nor the sand bar can be seen, and in sailing up this Laguna we were nearly always out of sight of one of the two sides. Imagine my surprise therefore when I learned, first from the fishermen and then by actual test with a stick, that the depth of the water varied from one to three feet over the entire area. This great shallow Laguna is literally alive with fish and thus a source of food for the great throngs of fish-eating birds which inhabit it. My guides demonstrated what can be done with a small hand cast net by simply throwing it at

random into the water. After a few casts we had enough mullet to feed us a week.

During the sail, as soon as daylight arrived, small flocks of terns were constantly in view. I noted eight species in half an hour. The Royal (*Sterna maxima*), Caspian (*Sterna caspia*) and Cabot (*Sterna sandvicensis acuflavida*), with their loud, raucous, and slowly repeated crys, were the most prominent. The Caspians did not mingle with the others, although the Royals and Cabots were nearly always together. The Gull-billed (*Gelochelidon nilotica*) and the Common (*Sterna hirundo*) traveled separately in smaller flocks which were loosely bound together. The flocks were constantly growing smaller as individuals dove into the water after fish and henceforth traveled alone. Black (*Hydrochelidon nigra surinamensis*) and Least Terns (*Sterna antillarum*) traveled in very loose flocks

Fig. 1. Reddish Egrets at home. The left-central bird has just finished the nuptial display. This gives an excellent idea also of the impenetrable front presented by the Bisbirinda.

and were rather aimless, constantly changing direction of flight and often beating back. A few Forster Terns (*Sterna forsteri*) were noted and more may have passed, for they are hard to distinguish from the Common unless the beaks are plainly seen. Laughing Gulls (*Larus atricilla*) were not as numerous as any of the terns. Black Skimmers (*Rhynchops nigra*) sat in solid companies on sand bars and black Mexican Cormorants (*Phalacrocorax mexicanus*) swept by in long streamers, low over the water. Brown Pelicans (*Pelecanus occidentalis*) were seen swimming and fishing both near shore and far out in the Laguna. Many unidentifiable sandpipers could be seen with the glasses along both shores when we approached near.

About seven o'clock Merced told me that Green Island was now visible and when he pointed it out to me I saw it, too, but it was a mere discoloration on the horizon. As we skimmed along in the fast little boat the discoloration changed into the island and we were finally near enough to see detail. It appeared to be a turret-shaped island of about thirty acres, and quite covered with thick brush. Surrounding it was a wide beach, on parts of which grew salt grass. Herons were standing in the water, resting on the tops of the brush, and flying leisurely about, but even as we landed none flew out to meet us. No birds other than herons could be seen and I was disappointed, for I had been expecting to find here the breeding grounds for all the terns, gulls, skimmers, pelicans, cormorants and others. However, the herons made up in numbers for the lack of those species.

Fig. 2. THE REDDISH EGRETS HAD A LOT OF BALANCING TO DO WHEN THEY LIT ON THE BISBIRINDA, FOR THEIR FEET ARE EVIDENTLY TENDER.

We made a camp on the sheltered side of the island and I started for a walk to encircle it. As I walked, the birds watched me casually and flew from their perches or from the shallow water surrounding the island as I approached too closely. In a few minutes I saw that Reddish Egrets (*Dichromanassa rufescens*) formed the major part of the avian inhabitants of the place. They were on all sides of me all the time. Some standing on tops of bushes peered at me, some peered from the shallow water, while some squawked at me from the air. Louisiana Herons (*Hydranassa tricolor ruficollis*), by far the neatest in appearance and most active, were next in abundance. They mixed quite informally with the Egrets excepting when fishing, and then they kept to themselves. Black-crowned Night Herons (*Nycticorax nycticorax naevius*) in full breeding plumage, extremely wary, left their perches abruptly as they caught sight of me, and flew into the interior of the island. Ward Herons (*Ardea herodias wardi*), appearing unduly large in size, were few in number and seen as individuals only, usually on the wing high in air. A fair number of pure white herons associated with the Reddish Egrets and were afterwards found to be Egrets in the white phase.

After a complete circuit of the island I essayed to enter the brush and get a more intimate acquaintance with these birds. Here I got a severe surprise for it practically could not be done. The brush consisted of straggling mes-

quite, Spanish dagger in abundance, several species of cacti, an Opuntia being the most abundant, and last but not least a bush which combined the sharpness of the Spanish dagger, the toughness of manzanita, and the wickedness of barbed wire entanglements Over There, which was dignified by the name of Bisbirinda. A sweet name! I know not the botanical name of this demon and never intend asking it for I already know far too much about that plant. Summarizing—the island was difficult to explore! I returned to the Mexicans and had a session with them, and they smoothed the troubled waters with a word. In the olden days this island was known as a Treasure Island and treasure seekers had cut fine picadas across it in many strategic places. This was different. Treasure hunters thus have their usefulness and often benefit mankind.

I ascended a gentle incline until I stood on the upper level which must have been about twenty feet above the water's surface. As I raised from a crouch I could see over practically the entire thicket and the view was simply astounding. It was literally alive with Egrets, simply thousands of them. Louisiana Herons were loosely associating with the Egrets while the Night Herons were grouped together in a restricted area in which there were no Egrets. The Ward Herons were standing far separated from each other and soon after they first saw me they all left the island. Some of the white birds were quite close to me and I saw that they were Reddish Egrets in the white phase. The violet colored flesh about the face and the legs, together with the size and shape, identified them at once.

Fig. 3. Reddish Egret, with nest material, having trouble with the Bisbirinda.

As to nests, every individual bush appeared to have nests on and in it. Some extremely large nests were evidently those of the Ward Heron, the most numerous were probably those of the Reddish Egret, while the smallest must have been those of the Louisiana Heron. Those of the Night Heron could not be determined upon. As I slowly made my way along the picadas the fact grew on me that none of the nests contained eggs. The birds were all in full breeding plumage, no young birds were in evidence, and some birds had already been seen carrying sticks to old nests.

In watching the Reddish Egrets many were then seen to be building nests. The greater part of the material consisted of dry salt grass stems, which was

placed as lining in old nests, but once in a while a bird carried a dead thorny twig found beneath a mesquite. Frequently a bird with a stick in its bill came close to me, and apparently utterly oblivious of my presence, placed the stick in a nest, moved it about for a moment or so and then flew away.

Mating had not been completed as yet and many nuptial displays were seen. The male would alight close beside the female and erect or ruffle out all the feathers of the entire body, with the possible exception of those of the abdomen, and spread them to the utmost. The long plumes of the back, neck and breast fluffed out and made the birds look as large as turkeys. During this display the body was usually hunched, the neck drawn in with the bill pointed upward at a steep angle. It lasted but a moment and try as I might I did not get a

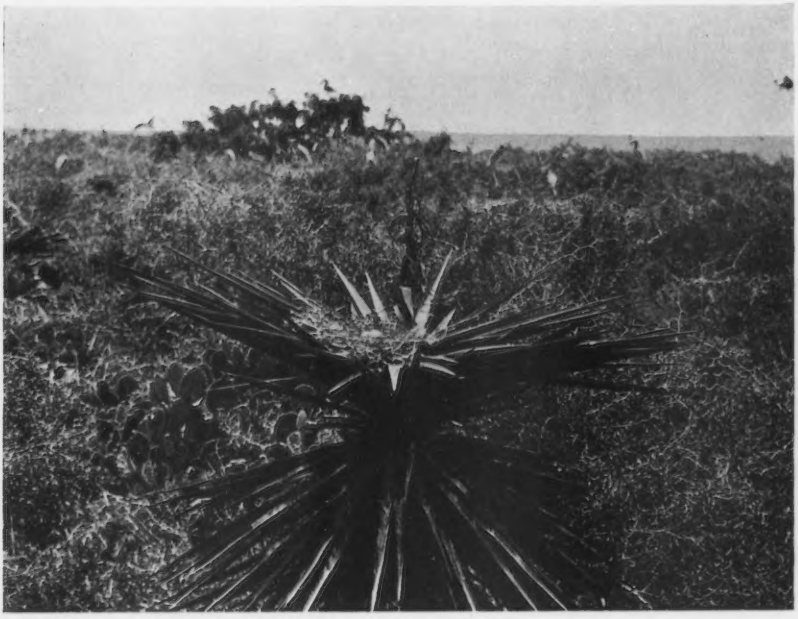

Fig. 4. Nest and eggs of the Reddish Egret.

photograph of the performance at its height. The female probably indulges also when she feels that she has acquired a mate, for two birds side by side were seen to go through the performance. Once an Egret in the white phase was seen performing before an Egret normally plumaged. Several mixed pairs of birds were noted and watched for some time to see if they stayed close to each other as if paired. I think that this ruffling of the plumage is indulged in as often as a demonstration by one male to another as for effect on a female. Thus when one male alighted near another frequently both birds ruffled their plumages before the newcomer became entirely settled.

Actual copulation was observed many times in the Reddish Egret. The male lit from the air on the back of the female who would be resting in her nest

looking pensively downward. The feet of the male were placed squarely on the back of the female. During the operation, the male of course squatting, the same erecting of plumage as in the nuptial display occurred. Many attempts were failures for the reason that if the female happened to be standing the male would disturb the equilibrium of the two when he lit on her back, especially if a gust of wind hit them just right.

The Reddish Egret in flight, is, I believe, more graceful than any other heron I have seen. The wing area must be larger in proportion to the size of the bird than in other herons, for there are moments when the bird handles itself after the manner of the vultures and albatrosses. Its flight is graceful, effortless and quite rapid. I found that near the end of the day the birds were entirely oblivious to man's presence. In this they resembled chickens on a roost very much. During the middle of the day they were more wary than at any other time. At any time, however, I found them to be easily frightened by the

Fig. 5. A MIXED PAIR. THE REDDISH EGRET IN WHITE PHASE WAS JUDGED TO BE THE MALE, FOR IT HAD JUST GONE THROUGH THE NUPTIAL DISPLAY TO THE NORMALLY PLUMAGED BIRD. THE TWO BIRDS ARE STANDING IN A NEST.

noise of the focal plane shutter of my camera. Waving of arms or shouting even in mid-day would get the undivided attention of every bird, but they would not fly. But every time the shutter dropped every bird within range would up into the air.

We slept on the island. Just before darkness the Egrets left for the mainland or some place in that direction. They formed a steady stream for half an hour. Near the end of their flight the Louisiana Herons began to leave and when it was quite dark the Night Herons could be heard squawking as they too left. During the night very little noise prevailed; I did not sleep well and noted this.

Our return to Point Isabel next morning was uneventful. Upon reaching Brownsville in a few days I talked with Mr. R. D. Camp, the State and Federal Game Warden for that district and also a veteran ornithologist, regarding Green

Island. He told me that on June 6 of the previous year he had visited it in company with Mr. T. Gilbert Pearson, with the idea of making the island a Federal Game Reserve, and that on that date all the species nesting there had practically finished breeding. This indicated that the 1921 season was a late one. Mr. Camp had not seen the Egrets during the beginning of the nesting season so he agreed to revisit the Island with me later in the month. Mr. A. J. Kirn came down from Oklahoma to join me and the three of us made the next trip, which was on May 26 and 27.

We arrived late in the afternoon, too late to make any systematic investigations, but a short walk into the brush showed me that a great change had taken place since the 10th, for now nesting was in full swing and nearly every nest contained eggs.

Fig. 6. A PAIR OF REDDISH EGRETS IN FULL BREEDING PLUMAGE. THE MALE, BIRD TO RIGHT, HAS JUST FINISHED THE NUPTIAL DISPLAY.

When the birds began to leave the island for their nightly fishing we made a count every few minutes of the number of Egrets passing during one minute. The start and finish of the flight was of course taken. The figures we got were as follows:

Flight began at 7:30; 7:40 to 7:41 we counted 63; 7:45 to 7:46 we counted 84; 7:48 to 7:49 we counted 10; 7:49 to 7:50 we counted 49; 7:55 to 7:56 we counted 39; 8:00, too dark to count, flight over.

By interpolating for minutes not counted these figures show that 1500 birds passed over us. All of these birds, Egrets only, were assumed to be males, the females remaining on the nests in probably equal numbers. Doubtless many males did not leave the island with the main flight and also others left from

other parts of the island. We agreed that 3000 would be the minimum number that could be placed on the Egrets.

During the middle of the day great flocks of Egrets stood in the shallow water at the north end of the island. Mr. Camp counted 1200 there next day. If these were all mates of sitting birds, double the number of Egrets must be present. At the other end of the island at the same time there was a large flock which was estimated to have 500 birds in it. These figures would allow an estimate of 3400 birds for the Reddish Egret population. We three agreed that many more might be present and we settled on a figure of 4000. We estimated the Louisiana Heron population at 2000, the Black-crowned Night Heron at about 100, and the Ward Heron at 50. Mr. Camp saw one Great White Heron (*Ardea occidentalis*).

The next day we were up early and commenced a careful examination of

Fig. 7. THIS REDDISH EGRET HAS JUST FINISHED THE NUPTIAL DISPLAY. THE SUPPOSED FEMALE IS DIRECTLY BEHIND HIM AND THE HEAD AND NECK OF A RIVAL MALE APPEAR TO THE RIGHT.

the nesting habits of the herons. We found the Egret nests to contain from one to four eggs, with three the normal complete set. About half the nests contained two eggs and very few contained four. Nearly all the nests were on top of either the bisbirinda or the Spanish dagger. The mesquites had very few, although some of the stunted and more robust carried nests. The Louisiana Heron built its nest usually on the side or midway up in the bushes, and rarely on top of anything. Many bushes had several nests in them and usually of both species. Three eggs constituted a full clutch. Although a few nests were found containing four eggs, the shape of the eggs in some of these made us think that two females had layed in the nest. Ward Heron nests contained from two to three eggs, and incubation had progressed farther with this species than with

any of the others. Nests of the Night Heron were hard to find, but evidently they were lagging behind the other species and had not commenced egg laying.

We had been in the brush only a short time when we began to notice numbers of freshly broken eggs lying in the nests. By looking for them we soon found that there was a tremendous number. They occurred in nests of all the three species which had eggs. It looked as if the birds on leaving their nests on our approach were breaking their own eggs. For some time we were perturbed at this state of affairs and determined to actually see a bird break its eggs. Birds sitting on eggs were approached, but as the bird left she never broke any eggs. Finally we discovered that it was the work of the Grackles (*Megaquiscalus major macrourus*). Each of us separately saw these birds pounce into nests and pick holes in the eggs. In most cases the contents ran down through the nest and was wasted on the ground, but the Grackle always managed to get a few mouthfuls before the egg went dry. It looked as if a Grackle would have to break a great number of eggs before it would get a full meal. I saw Egrets drive the Grackles away from their nests frequently, so they are wise

Fig. 8. Louisiana Heron and Reddish Egret, showing comparative size.

to their sole enemy. There were probably one hundred pairs of Grackles on the island and the damage done by this number must be very great. The Grackles build their nests in the same bushes with the Egrets and on that day many nests contained eggs. We smashed all we could find. Mr. Camp planned to return to the island later with the object of determining if the Grackles ate the newly hatched young, but was unable to do so.

Another remarkable thing about this island is that coyotes visit it, though it is about five miles from the mainland and more than that from Padre Island, the sand-bar. Their dung, tracks, and dens, and skeletons of partially eaten herons were all unmistakable evidence. No fresh water exists on the island so it is improbable that the coyotes can remain very long. The fruit of some of the cacti, dew and possibly other sources would supply the water wants on a short visit. Coyotes certainly can not see this island from the sand-bar. The Mexicans say that it is there that they come from. In times of great north winds the water is reputed to be blown out of the Laguna and on such an occasion a coyote might find the island as he ventured out on the mud flats for dead fish. We found that the Louisiana Heron is the principal victim of

the coyote, for there were a great many more carcasses of this species than of any other. None at all were found of either Ward or Night herons.

The Reddish Egret is a silent race, the only note being the squawk, which is far less forcible than that of the Night Heron. As the birds leave on their nightly fishing expedition they squawk more than at any other time. As they sit about their nests there is some snapping of beaks at intruders, Grackles, and even their mates.

Mr. Pearson, when visiting Green Island with Mr. Camp, stated that this colony is the largest in existence in the United States. He had seen all the others. I understand from Mr. Camp that arrangements have been completed for the turning of the island into a Federal Reserve. A warden will be placed on the island during the breeding season and he will poison, shoot and in other ways get rid of the Grackles and coyotes. Thus this fine colony will be permanently preserved.

Few land birds live on Green Island. Curve-billed Thrashers (*Toxostoma*

Fig. 9. The graceful flight of the Reddish Egret.

curvirostre curvirostre) occur in small numbers. Mr. Camp found the nest with a set of four fresh eggs of the Texas Woodpecker (*Dryobates scalaris bairdi*) but this bird could hardly be expected to regularly nest on the island. Mr. Kirn found a nest with two fresh eggs of the Black Vulture (*Catharista urubu*) on the ground beneath a canopy of cactus (*Opuntia*) leaves. One family of Gray-tailed Cardinals (*Cardinalis cardinalis canicaudus*) was found.

One of the last happenings before we left the island was the arrival of a flock of about fifty Roseate Spoonbills(*Ajaia ajaja*). They settled in the shallow water on the north end of the island and at once began probing in the mud with their spatulate bills. They were too wary to permit an approach with a camera and flew away after only a short feed.

All the illustrations accompanying this article are from photographs taken by the writer at Green Island.

Tulsa, Oklahoma, November 21, 1921.

MAGPIES VERSUS LIVESTOCK: AN UNFORTUNATE NEW CHAPTER IN AVIAN DEPREDATIONS

By S. STILLMAN BERRY

WITH TWO PHOTOS

WHEN civilized man extends his domain into an hitherto unoccupied region, as he has done in the case of much of the territory of our western states during the last half century, one of the first results of the impact is an inevitable severe dislocation of the whole nice dynamic equilibrium existing in the life relations of the myriad of humbler animals and plants endemic in the area. Some of these, unable to meet the new conditions involved in the introduction of so all-invading a competing or conflicting organism as man, never recover from their first reverses and sink rapidly into extinction. Others linger on, continuing a losing battle in the face of ultimate defeat until perhaps man himself rouses in interested admiration to temper the odds against them. Still others are able to maintain themselves in the old way without much discomposure, while a fourth class meet the invader half way and by divers quaint counter-adaptations to the human environment attain such powers of survival as to hold their own willy-nilly, the pleasure of omnipotent man in large degree to the contrary notwithstanding. The detection, observance, and recording of these secondarily acquired adaptive habits form by no means the least profitable field open for investigation by the biologist in any new country. In the older regions, it is true, these changes still present themselves at intervals, but no doubt less frequently, and the complete history of the transformation in any given case is generally more difficult to trace.

Viewed in this light the few observations here recorded possess a somewhat wider significance than the mere recognition, in the economic sense, of "another pest", although whether the modifications of habit noted will ever become permanently established or sufficiently widespread to be considered a specific part of "picine" ecology, only the future will reveal.

It is well known that magpies, like their relatives, the jays, habitually devour, not only coarse seeds, berries, and insects of many species, but also small mammals, the eggs of other birds, and all too often, alas, the young birds themselves. Likewise they are and doubtless long have been energetic scavengers demolishing carrion with a speed and assiduity that their human observers can scarcely envy. Yet we do not generally think of them as raptorial in habit, at least in any major sense, and to find them becoming so tempers our natural indignation at their bloodthirstiness with surprise at their ready aptitude in learning to adapt themselves thus readily to so new a source of food. The frequenting of the backs of animals, especially the various ungulates, by magpies and other birds has ever been a commonplace observation, but while the knowledge that magpies may resort to such situations for the purpose of preying directly on the animals themselves has been the little treasured property of western stockmen for some time, little seems to have found its way into print regarding the birds' assumption of so malevolent a habit.

It was in July, 1912, that the writer had his first experience with an attack by magpies (*Pica pica hudsonia*) upon one of the larger mammals, in this in-

stance sheep. The occurrence was reported verbally a few months later to Drs. W. K. and A. K. Fisher, who stated that such behaviour on the part of these dashing denizens of the air was wholly new to their experience, and accordingly urged that the observation be placed on record in one of the ornithological journals. However, in the press of other circumstances and likewise the expectation that further data on the subject would come to hand, such notes as I had were laid to one side. I have jotted down a few additional observations from time to time since. The recent appearance of a very brief but valuable note on the subject by A. W. Schorger (Auk, vol. 38, 1921, pp. 276-277) impels me to add what information I can while the interest aroused by Schorger's note is still warm. The present paper covers observations made during a decade of summers spent at Winnecook, Wheatland County, Montana. It doubtless fairly summarizes the actual experience of almost any cattle and sheep ranch in central Montana where the magpie is one of the most abundant and ubiquitous of birds, whether on the open prairie or among the woods and pastures of the river bottoms.

Fig. 10. Magpie in characteristic attitude on back of ram in pasture. Photograph taken by Elwyn H. Dole at Winnecook, Montana.

The depredations committed by the saucy black and white beauties in 1912 were of a very serious nature. It is the custom in many of the western ranches to bring the rams into a roomy bottom-land pasture after shearing, where they remain fenced in, usually without the constant care of a herder, through the summer. Magpies abound in just such localities as those generally chosen for the "buck pasture", the isolation of which gives them a better opening for any deviltry to which they may be inclined than is afforded by the sheep bands out on the prairie with their herders always watching over them. Now ordinarily the abundant wool of the range sheep is an ample protection against even so powerful a weapon as a magpie's bill, but in July a Montana sheep has just been deprived of this padded armor by the June shearing and is as defenceless as a kitten. Not only that, but the chances are that a cut of the shears here or there opens up a tempting display of raw, juicy flesh,—just a nice little tidbit to bait a meat-loving magpie. During that summer a number of magpies began bothering the newly shorn rams, *beginning*, as I believe is usually the case, contrary to the experience of Schorger's correspondent, on

those showing particularly bad shearing cuts. As soon as this was discovered the birds were driven away and I believe a few of them shot as a warning, but they soon returned to the attack, and before the seriousness of the situation was realized they had opened up ugly wounds on quite a number of the sheep, from which they would pick and tear the flesh whenever the least chance was allowed them. The sheep seem utterly helpless in such circumstances, merely lying or standing pitifully while their tormentors, alighting on their backs and clinging there, give the wounds no chance to heal. Blow-flies soon add their quota to the troubles of the poor quadrupeds and a wound of this sort cannot long go unattended before it becomes a writhing mass of maggots. What made matters worse during the year in question was that soon the magpies, or some of them, began, by dint of their own efforts, to open up entirely new wounds on the sheep. For some reason the kidneys are particularly favored tidbits, and the birds were quick to learn the location of these organs in the animal's body and the ease with which they could penetrate to them by drili-

Fig. 11. A Romnellet ram victimized by magpies, showing typical lesion in renal region in process of healing. Photograph by the author at Winnecook, Montana, August 28, 1921.

ing a shallow hole just at the side of the spine in the lumbar region. Through this they would peck away piecemeal, first the overlying tissues, then the toothsome fatty layer, and then work into the kidney itself. The wretched sheep would become weaker and weaker, soon sink by the wayside, and in the absence of prompt human intervention the end was not long delayed. In fact if the magpies had gained very much headway before being discovered, even human help was of small avail. As mentioned by Schorger the Kea of New Zealand has long been known to prey at times upon living sheep. It is of interest to note that it, too, has been reported to have a particular predilection for the region of the kidneys, where its appetite is said to be for the fat surrounding these organs. So far as I could ascertain the magpies were not content with the fatty layer, but ate the true glandular tissue as well. Newton states in the Encyclopaedia Britannica (11th Edit.) that "The amount of injury the kea inflicts on flockmasters has doubtless been much exaggerated, for Dr. Menzies states that on one 'run', where the loss was unusually large, the proportion

of sheep attacked was about one in three hundred, and that those pasturing below the elevation of 2000 ft. are seldom disturbed." When once fairly started a flock of pies is capable of doing much worse damage than this. I still have a photograph of the 1912 hospital band at Winnecook which shows about 15 rams all suffering simultaneously from injuries of this nature. As the total number of rams on this ranch at that time was certainly under 350, this gives a percentage of animals attacked of better than 4 percent. As a result several valuable rams were lost entirely in spite of all that could be done by means of remedial measures applied directly to the wounds, and protection from further magpie attacks, together with an active war of destruction against the birds. The latter failed to diminish the total number of pies very much, but must have been successful in eliminating most of the more guilty ones, for I have no record of much trouble of such virulent nature during the seasons following. There have been, however, a few scattered instances, now and then, for which I believe there is some reason to think that certain individual birds were chiefly responsible. One bad case of a ram victimized by magpies occurred at Winnecook during the past summer, and was made the subject of the accompanying photograph. The attack took place in the buck pasture as usual, and a serious wound had been opened over the right kidney before the animal's condition was discovered. In this instance it was not too late to effect complete cure, however.

Whether in earlier times magpies ever made a practice of preying in this manner upon wild quadrupeds is doubtful. No such case has ever come to the notice of the present writer and as none of the "old timers" with whom the matter has been discussed seem to recall anything definite about stock losses from magpies in the early days, it seems reasonable to suppose that attacks on living ungulates have been undertaken only quite recently. This perhaps constitutes an explanation why this habit is still more or less a sporadic one, and why some magpie individuals or colonies are so much more prone to practice it than others seem to be. The individual experience of any given bird is evidently an important consideration or even the ruling one, but there seems little doubt that the addiction is one easily acquired by almost any of them when circumstances favor it.

The manner in which such a habit might be formed is not difficult to imagine. In fact it might take place in any one of several readily occurring ways. As has already been mentioned magpies are commonly observed to frequent the vicinity of many of the larger domestic animals, frequently alighting on their backs and pecking about there. Also we have frequently noticed that they will gather about a weak sheep or young lamb unable to defend itself and peck at its eyes. Or, when there are cuts or sore places on the backs of animals (in our local experience principally cows), a magpie is almost sure to alight on the victim and peck away at the exposed flesh. So it is all too easy to pass from this discovery to that of the shearers' cuts on the sheep as already noted, or the tender brands on newly branded cattle. But from whatever point of vantage the signpost pointing the final descent down the path of depravity is all too plain, and the birds find the transition to making the initial wound themselves an easy one.

On this same ranch not long since the cowboys reported two cases where the magpies in attacking freshly branded cattle penetrated well into the body

cavity. One of these animals was nearly dead when found, and my recollection is that the other case had a fatal termination also.

Another instance of magpie depredation occurred in the winter of 1919 when a half dozen hogs caught in a blizzard at some distance from the farmyard gave up fighting the storm, and lay down together as such animals so frequently will. In that situation they were set upon by magpies and when found the birds had picked through the skin of the back and eaten into the flesh of every one of the six, though some were in much worse condition than others.

Mr. Schorger's correspondent in Utah (*op. cit.*, p. 276) reported that in his experience "the wounds were always in the back, the magpie sitting there and pecking until it had opened up a small hole in the flesh." This position is of course the natural and convenient one for the bird to assume, but much depends upon the presence on the sheep or other animal of previous wounds and their location. The cattle brands referred to as sometimes subject to molestation happen to be on the sides of the animals.

From the foregoing it may readily be seen that it would not require a very great extension of the habit for magpies to become a truly serious menace to livestock and the industry founded thereon. At any rate the possibility of this is worthy of consideration—*before* the event, rather than *after*. But as indications on the hopeful side of the situation may properly be emphasized,

(1) The possibility that the habit is one acquired only occasionally and by certain birds, so that the destruction of these particular individuals will suffice for protection on the part of the stockman until such time as another colony may take a notion to start the same thing over again.

(2) The chance that in any case the habit will always remain, as it would seem to be at present, sporadic.

In conclusion the writer ventures to add that he is not an ornithologist or well acquainted with the ornithological literature. Consequently it is wholly possible that magpie misbehaviour of the nature noted may already have received attention in print somewhere in addition to the note by Schorger, the only one on the subject which he has chanced to see. Any information respecting the existence of earlier records, or in the way of new field observations by others, would be greatly appreciated by him.

Redlands, California, November 21, 1921.

NOTES ON THE DIPPER IN YELLOWSTONE NATIONAL PARK

By M. P. SKINNER, Park Naturalist

THE little, dark, almost black Dipper (*Cinclus mexicanus unicolor*) is resident along almost every stream in the Park from the lowest elevation (5300 feet) well up above the 8000 foot level. I doubt not but that Dippers would be found much higher if there was any place for their beloved streams to descend from. Seen to some extent about ponds and lakes, they much prefer rapids, although not the most tumultuous ones, and waterfalls; and they are common enough along the mineralized waters. Only once have I seen one away from water and then he was flying over the quarter mile stretch between two streams. I have seen them on streams not more than two feet wide in the fir forests; along ditches, if the water be but clear and running; and occasionally, in November, along a ditch watering a barn yard. They live about beaver ponds, and at least one pair has a scenic retreat in the depths of the Yellowstone Canyon at the foot of the Lower Falls.

Usually alighting on a stone along shore or in mid-stream, they are not averse to resting on a stump, on drift caught in the current, or on a snag or root extending out over the water; but the farthest from the water I have ever seen one perched, was on the edge of a concrete retaining wall six feet above the water. In winter they are given to perching on the edge of the ice along shore, or about an opening, where they never seem to slip even when the ice is fresh and "as slippery as glass." Sometimes they fly up along the power pipe line to the reservoir and rest on the edge of the ice by the open water that never quite closes even in the coldest, below-zero weather. In winter, Dippers are on the formation below Jupiter Terrace, and they live all winter long as high as 8000 feet above sea level wherever the hot springs keep the streams open, such as the Gardiner, Gibbon, and Firehole rivers, Alum Creek, and in the Geyser Basins.

The Dipper is given to "dipping", quite like a sandpiper, while standing on any convenient stone, or ridge on the ice. Often running nimbly along the level shore ice, he is very active and always busy except when he stops a few minutes to sing, or to take a sun-bath. On early winter mornings, sun-baths are the regular thing. One cloudy morning I noted a Dipper do the next best thing—warm himself and bask luxuriously in the steam from some cooled geyser water that was still much warmer than the keen, wintry air. While swimming on the water, a Dipper goes along nodding his head quite like a miniature rail, or a coot. In many ways Dippers suggest wrens. They are small and quick; they often perk up their short tails at a steep angle; and they are forever exploring every nook and cranny of their domain.

More or less solitary, never more than a pair together, except for a family party just from the nest, they do not associate with other species. Each bird, or pair of birds, claims a portion of their stream as their own, and promptly drive off intruding Dippers and then as quickly return to their own home section. Once I saw the intruder halt in mid-air and dive like a flash into the rapids two feet below him to escape. True, winter necessities make it rather crowded along the few open streams; but even if sections are smaller then, they are still preserved inviolate.

The flight is direct and the wing beats are very rapid for a hundred feet,

then the Dipper coasts along ten feet with the acquired momentum before taking up his wing strokes again. Except for the quarter mile flight already recorded, I have seldom seen a Dipper over land; indeed, this bird is noted for the fidelity with which he follows the waterways. A bird will come flying down one stream, turn an acute angle at the mouth of a second stream, and then go buzzing merrily up it after flying three times as far rather than cross the neck of land between the two streams. In following an irrigation ditch, one will turn at a right-angle promptly with the ditch. A pair that fly up along the power pen-stock to our reservoir come the nearest to flying regularly over land of any that I know of. Sometimes in chase and pursuit, the rule is forgotten until the excited birds find themselves over the unfamiliar dry surface.

Usually a Dipper flies close to the water, but I have seen one flying along thirty feet above the surface. When ready to alight he chooses either the shore or the water surface, although I believe he prefers to alight on a running stream and swim ashore! In the case of still water, he certainly prefers alighting on the surface. It appears easy for him to take flight again from the water.

The song is a loud, clear, bell-like strain, the very essence of happiness and joy, ringing out high above the rush and roar of all but the heaviest of rapids. Still sweeter by far is it when heard in the depth of winter. Although rapids may sometimes dim the music, often there is a ringing echo from the cliffs to reinforce it. Beginning about November first, the song season reaches its height in February and March. I have heard the Dipper sing on clear, sunshiny days when the temperature was down below zero; I thought it anything but spring-like, yet these musicians sang cheerily in spite of thermometer readings. Usually squatting on a stone out in the stream, where errant drops of water often dash over them, with head and neck slightly outstretched, they are very still and quiet while singing, except for occasionally turning their heads, and "winking". Their stone platforms are from three to ten inches above the water, and the motionless singers are hard to see. They do not dip while actually singing, but often do during the pauses in the song. Sometimes they sing while in flight, and occasionally I have heard a song from a bird running along shore. At times I have seen a Dipper diving one instant and the next he was in full song, only to resume diving and feeding shortly after. While Dippers prefer to sing on warm, spring days they frequently sing also on zero days, and often the clear notes ring out during the severest of snow storms. Once I found one singing a merry lay in a heavy snow driven by a high wind that I did not at all care to face myself!

An angry, hissing note used when chasing off intruders is so distinctive as to point out the bird at once; such a striking sound attracts attention the instant it is heard.

Dippers run along the shore ice, swim in, as well as on, the water, and dive in "all over" as they please even when the thermometer is far below zero. With feathers oiled against wetting, a bird under water is easily seen because of the silver air bubbles adhering to the plumage. They sing, play, and dive during cold, north winds that drive even the hardy Nuterackers to cover. Dippers are unaffected by cold, remaining along the upper Yellowstone during November and even later, the very quintessence of hardihood!

Properly speaking, they do not migrate, but the freezing of some of the

Park streams forces them to congregate along those still open. In this way, they begin increasing along the lower six miles of the Gardiner River that is open, about November first, and by Christmas this section supports a population of seventy-five Dippers as against the summer quota of perhaps ten. In the spring, usually towards the middle of March, they begin moving up as rapidly as the streams open again.

Food is secured under water by diving, even through "anchor ice" on the surface and "slush ice" in the water; sometimes a Dipper stands in shallow water and gleans from the bottom without diving; and once or twice I have found one apparently skimming his food from the surface of the pool over which he was swimming. Diving from the shore ice quite like human divers, from the surface of still water, they leap forward and down, only to reappear after a minute or two with the sudden uprush of a cork. Water only slightly roily does not seem to bother them in the least and our clear mountain streams are not often worse than that. Occasionally the birds combine singing and eating, as already related in the paragraph under song.

After a hearty breakfast, a Dipper usually comes out to bask and preen in the early morning sunlight. In fact, these little birds are given to sunbaths; they are often seen perched silently on a stone, so quietly as to simulate sleep except that their heads are not "under their wings" and the winking white eye-lid is easily seen.

A bird almost continually in the water and the rest of the time in the spray of rushing rapids and waterfalls, one would not think in need of a bath. But the Dipper thinks otherwise, and when he bathes, he does it thoroughly. The first bather I found was standing on a stone in mid-stream, alert, and with tail perked up straight. Then he flew, hit the water three feet away, and shot along the surface with head under so that the water rushed up over his back; then he flew away, and came back again immediately for another plunge. After that, he stood in shallow water covering legs and half his body, and fluttered in approved bird-bath fashion; then to a stone to shake himself, to dress his feathers, and to preen.

I am doubtful whether Dippers mate anew each year, and I am inclined to believe in "mating for life" for this bird. They seem to have all paired early. On a few occasions, I have seen male Dippers singing very sweetly and very earnestly with tail perked up at an extravagant angle and wings slightly drooped, again very much like a wren. Probably these were birds not supplied with a mate from the previous year.

When there is a suitable rafter low and moist enough, Dippers sometimes nest under bridges, but a niche in a boulder in mid-stream is much more likely to be selected. Once, on March first, a couple was seen building a nest in a boulder niche along the Gardiner River. The nest was a ball of moss about nine inches in diameter with a little mud inside, and mud was also used to cement the whole to the rock. Four feet above the rushing water, the nest faced north or downstream; as a rule the Dipper nests I have found have faced downstream. In the front of the nest ball was a round opening about one and a half inches in diameter, leading to the inner nest of coarse, wiry grass that did not wet down into a sodden mass. While this nest seemed to be completed, I found it still unoccupied two weeks later, although the birds were frequently in its immediate neighborhood. About March 24 this nest was torn

out by the birds and later rebuilt. A ball of green in July, this second nest even had new grass growing from it to a height of more than a foot. I am under the impression that three birds were brought to maturity from the four white eggs this nest contained. At any rate a full-fledged youngster was seen in the vicinity on July 3.

Another nest was on the bank of the Lamar River facing west over rippling water just below Rose Creek, and built into a hollow between two harder layers in the gravel. It was like the first, but had a unique location in that there were no falls nor rapids near, and consequently no spray to keep the moss green. A third nest was found April 20, on another boulder in the Gardiner, three feet above the water. It was similar in every way to the nest described except that the opening had a portion of the nest material projecting out, like a porch, over the entrance, the birds going in from below.

In the far western part of the Park, I located a nest, like the one described, placed two feet above the swiftly running water on a rock in the middle of Campanula Creek. It faced south, but as usual was on the downstream side. It was like the third nest in being entered from below, but the entrance was gourd-neck shape and made of mud. Four white eggs were being incubated on May 20, and the mother stuck so closely that she would not leave until I struck the outside of the nest ball. At the foot of an artificial waterfall near the Power Plant at Mammoth, was a nest similar to the first described, in the crotch of a dead log. However, this nest was on top of its support and not on the side.

One summer there was a Dipper's nest beside Rustic Falls near the heavily travelled Golden Gate road. It was about eight feet below the edge of the Falls and three feet to one side of the falling water. It was so totally inaccessible that I could not reach it, and so I learned little about it except that nestlings were being fed on July 4. It was located 7300 feet above sea level, whereas the lowest of the nests here described (one of those along the Gardiner River) was at 5400 feet elevation.

Apparently, as with other species, Dippers' nests are very characteristic in size, shape, material, and location, and can be identified at a glance. Still there are many modifications in minor particulars.

Yellowstone Park, Wyoming, April 7, 1921.

SOME BIRDS OF ROOSEVELT LAKE, ARIZONA

By HARTLEY H. T. JACKSON

WITH MAP AND ONE PHOTO

THE NOTES on the birds of Roosevelt Lake, Arizona, here presented are intended only as supplementary to the interesting account by Swarth[1], and include remarks only on those species found within the area actually covered by the lake proper and its immediate shore-line. The investigations were undertaken for the U. S. Biological Survey as a part of its general study of the land vertebrates of the state. Field work was conducted at the northern end of the lake May 19-24, 1916, although actual observations of the water birds were made mostly on May 20 and 22, and a trip was made by motor-launch to the bird colonies at the eastern end on May 26. Swarth visited the colonies of cormorants and herons on the lake early in June, 1917, a little more than a year after my observations were made; but the time he had available for study of the water birds was less than in my own case, and this in part probably accounts for the apparently greater number, both of individuals and species, indicated in my list. The counts of the breeding birds were made after I had become fairly well acquainted with the colonies, and I believe they are reasonably accurate. They are based on actual counts of adult birds, checked with counts of the nests.

Roosevelt Lake, which is formed by the damming of Salt River by Roosevelt Dam, is located near the geographical center of Arizona at an altitude of 2300 feet. It lies in a general southeasterly-northwesterly direction, is about thirty miles long and three miles wide in its widest part, and has a very irregular shoreline, particularly on the northern side. The lake is about 275 feet deep in the deepest parts, the supporting dam being 286 feet high. The water in this reservoir is supplied mainly by two streams, Salt River, which flows in from the east, and Tonto Creek, which flows in from the north, at opposite ends of the lake. The former banks of both Tonto Creek and Salt River were lined with cottonwoods (*Populus wizlizeni*), and in the shallow water near the ends of the lake many of these trees, killed by the high water, have their tops left protruding from the surface of the lake, offering nesting sites for cormorants and herons. Farther up these streams, particularly up the Tonto, are dead small trees and bushes, and large live trees, the trunks of which are but little submerged, where other herons nest. Both of these streams carry quantities of debris and silt, and already a mud and sand flat has begun to form at each end of the lake, especially noticeable at the Tonto end. Salt River seems to carry more debris, such as timber, but less silt. The flat at the mouth of the Tonto covers an area of approximately four square miles. At present there is no marsh or perceptible amount of aquatic vegetation growing on these flats, but it is possible, though hardly probable, that ultimately such a type of vegetation may develop, adding increased nesting places for species of birds now unknown to breed on the lake. The variation in the water level, however, tends to prevent the growth of such vegetation. Except at the ex-

[1]Swarth, H. S., Birds of the Papago Saguaro National Monument and the neighboring region of Arizona, published by the National Park Service, Dept. of Interior, Washington, D. C., 1920.

treme ends of the lake and at two or three places along the northern side, the shores are steep and in many places almost precipitous.

The general topography in the vicinity of Roosevelt Lake is rough and broken. On the west side of the northern arm of the lake, where most of the field work was conducted, the soil covering is slight, the basal structure being largely a reddish limestone, inter-mixed with conglomerate and granite. Bumblebee Canyon drains the region of Mazatzal Range adjacent and just north of Four Peaks. This canyon is terraced much of its length through a gravel soil washed from the hills above. Underground water oozes to the surface in many places to form Bumblebee Creek, the actual stream being less than a mile long in dry weather. It was near the mouth of this creek that headquarters were made May 19 to 24.

The entire region adjacent to Roosevelt Lake lies in the Lower Sonoran Zone, which is here characterized by the growth of such plants as *Covillea glut-*

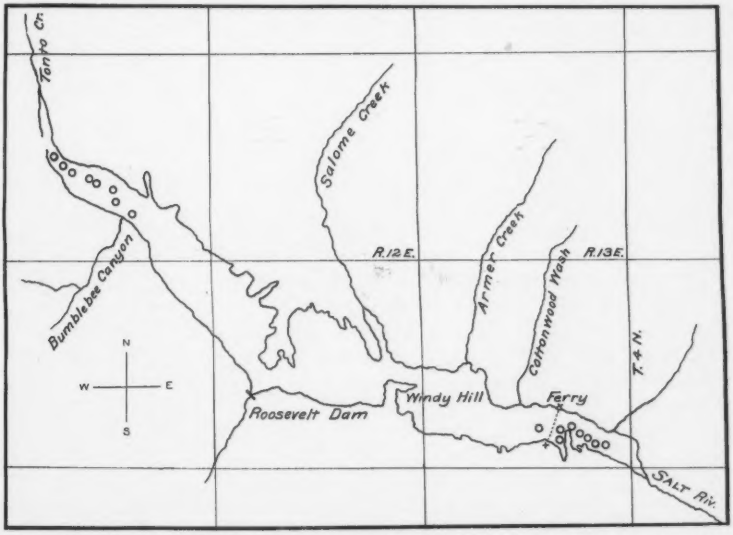

Fig. 12. MAP OF ROOSEVELT LAKE, ARIZONA. CIRCLES INDICATE APPROXIMATE LOCATIONS OF BREEDING COLONIES OF CORMORANTS AND HERONS.

inosa, Prosopis glandulosa, Acacia greggi, Fouquieria splendens, Hymenoclea monogyra, Gutierrezia sp., *Carnegia giganteum, Dasylirion wheeleri, Yucca radiosa,* and *Chilopsis linearis.* The aspect is distinctly that of desert mountains.

Phalacrocorax auritus albociliatus Ridgway. Farallon Cormorant. This species was found breeding in dead cottonwoods, the tops of which protruded above water fifteen to forty feet deep. The nests were usually about fifteen to twenty feet above the water, never under twelve feet above the surface. The water, however, had receded about six feet during the nesting season. All the nests examined contained young from a week or ten days old, to birds well feathered and nearly able to leave the nest (the greatest part of the young were this age), and to a few able to fly and swim. All told, there were about 130 pairs of cormorants breeding on the lake, about 90 pairs at the Salt River end, and about 40 pairs at the Tonto Creek end. Swarth (*loc. cit.*, p. 52) estimated the number at the mouth of the Tonto as 40 or 50 birds.

Economically these birds may have some detrimental habits in tending to destroy fish planted in the lake. But the majority of the fish captured by them are the slow-moving German carp (*Cyprinus carpio*) and a few blue-gills (*Eupomis pallidus*), the principal game and food fish of the lake, the large-mouth black bass (*Micropterus salmoides*), probably being disturbed but little. Of three fish seen dropped by cormorants at the nesting colonies two were carp and one was a blue-gill.

Chaulelasmus streperus (Linnaeus). Gadwall. About a dozen Gadwalls were found at the Tonto end of the lake, where they were most frequently seen among the partly submerged brush or on the mud banks. The two specimens collected showed no signs of breeding activity either in habits or anatomically.

Spatula clypeata (Linnaeus). Shoveller. There appeared to be about ten Shovellers inhabiting the mud flats and brush at the Tonto end of the lake. The female taken had small undeveloped ovaries.

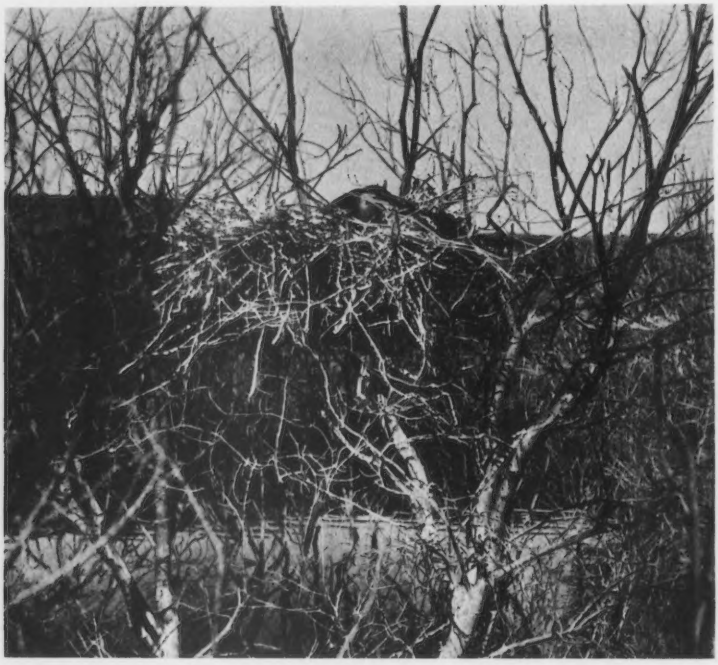

Fig. 13. NEST AND YOUNG OF PALLID GREAT BLUE HERON. TONTO END OF ROOSEVELT LAKE, ARIZONA.

Erismatura jamaicensis (Gmelin). Ruddy Duck. Ruddy Ducks were found only at the Tonto end of the lake where there were probably about twenty individuals. Three females which were collected each had small, undeveloped ovaries.

Ardea herodias treganzai Court. Pallid Great Blue Heron. The colonies of Great Blue Herons were somewhat scattered, being mostly at the Tonto end of the lake where about eighty pairs were nesting. Practically every nest examined contained young, which in most cases were nearly ready to leave. About forty pairs were found nesting at the Salt River end of the lake, May 26, making a total of about 120 pairs on the lake.

Herodias egretta (Gmelin). Egret. Two birds of this species, apparently a pair, were seen on several occasions on the mud flats at the mouth of Tonto Creek. At one time, after crawling for many yards through spiny desert vegetation, I succeeded in

approaching to within sixty yards of one of them. This was within chance range of my 20-gauge shotgun and, in fact, my gun was at my shoulder. But I did not pull the trigger, for here was one of the only two egrets on this bird sanctuary, possibly one of the only two in the state of Arizona, and they were probably breeding birds. These egrets, however, were exceedingly wary and usually remained well out on the mud flats where they were fairly safe.

Nycticorax nycticorax naevius (Boddaert). Black-crowned Night Heron. Swarth (*loc. cit.*, p. 54) considered the Black-crowned Night Heron less abundant on the lake than the Great Blue Heron, and reports seeing "perhaps 20 birds, all told." My own observations, as recorded directly from my field reports, are: "The most abundant, though probably the least conspicuous, bird on the lake, usually nesting in living cottonwoods partly submerged in the water on the flats. About 120 pairs nested at the Tonto end of the lake (May 20-24) and about 80 pairs (May 26) at the Salt River end. Young in most cases were able to leave the nests and perch on branches, or fly. Some ten nests were seen in dead trees, all others being in trees bearing green leaves."

Fulica americana Gmelin. Coot. There were between ninety and one hundred Mud-hens on the Tonto end of the lake, but not one was noted at the Salt River end. A male, collected May 20, had very small testes and apparently was not breeding.

Actitis macularia (Linnaeus). Spotted Sandpiper. A single individual of this species was seen on two occasions (May 20 and 22) on the shore near the mud flats at the Tonto end of the lake.

Oxyechus vociferus (Linnaeus). Killdeer. Some six or eight Killdeer were observed on the mud flats at the mouth of Tonto Creek, May 22.

Pandion haliaëtus carolinensis (Gmelin). Osprey. Ospreys were seen daily (May 19-29) near Roosevelt Lake, where a dozen or more birds obtained food.

Aluco pratincola (Bonaparte). Barn Owl. A Barn Owl was seen, May 20, perched peacefully among a colony of twenty-seven cormorant and eight great blue heron nests containing young, in the top of a dead cottonwood over thirty feet of water and 300 yards from the nearest shore. So far as I could observe, it had not disturbed the rookery in the least.

Bubo virginianus pallescens Stone. Western Horned Owl. A nest, containing two young fully one-third grown and able to perch on limbs of the tree near the nest, was located in the top of a partly dead cottonwood well out in the water at the Tonto end of the lake (May 20).

U. S. Biological Survey, Washington, D. C., September 29, 1921.

FROM FIELD AND STUDY

On the Occurrence of the Buffle-head at Eagle Lake.—The notes under the above caption by Milton S. Ray in the November CONDOR require some comment. The bird in the first photograph is undoubtedly a female Buffle-head (*Charitonetta albeola*), the young ones following her are indefinite. The two downy young "Buffle-heads" in the other photograph (fig. 33) are obviously and emphatically American Mergansers (*Mergus americanus*), newly hatched. The markings on their heads together with the shape of their bills are both unmistakable, and quite unlike a downy Buffle-head.

Young ducks frequently follow an adult of another species. I have seen a female Buffle-head and a female Barrow Golden-eye both guarding a single duckling of the former species and both equally solicitous. At another time I watched a newly hatched Spotted Sandpiper trotting after a Least Sandpiper while its own parent was a considerable distance away.

Of course it is more than possible that the Buffle-head breeds in northeastern California, but unfortunately Mr. Ray's record fails to prove this, nor does he seem to realize what an extraordinary phenomenon was before him when he saw *both* parents attending the young. In the case of very aberrant ducks like *Erismatura* and *Dendrocygna* the male parent may assist as in all the geese and swans; also I believe there have been instances of some southern ducks, the Cinnamon Teal for one, that have been

seen with both male and female in attendance on the young brood. But after a lifetime spent among wild ducks I have yet to see the first indication of any solicitude for the young on the part of the male of any species.

In the case of the Buffle-head the males have totally disappeared (apparently all leave the country entirely) before the first broods of young are seen.—ALLAN BROOKS, *Okanagan Landing, British Columbia, November 25, 1921.*

The Black Vulture in Colorado.—On October 8 or 9, 1921, two young schoolboys, Richard Harvey and a boy named Baer, captured alive, on the foothills near Boulder, an adult male Black Vulture (*Coragyps urubu urubu*), breaking its wing. They tied it in a neighbor's yard to keep it alive until the University of Colorado Museum preparator returned from a short trip, but the neighbor turned it loose just out of town. A few days later two other boys, Elvin Watson and James Mitchell, found it dead in a ditch and brought it to the Museum, where its skin is now preserved. So far as I know there is no published record of this species for Colorado, and it is particularly interesting to find the first one for the state so far north. In 1900 Professor W. W. Cooke, in his Second Appendix to The Birds of Colorado (page 204), stated that the Black Vulture "has been taken in Western Kansas and probably will some time be found as a rare summer visitant in Southeastern Colorado"; but Boulder is 270 miles northwest of the southeastern corner of the state.—JUNIUS HENDERSON, *University of Colorado, Boulder, October 25, 1921.*

A Winter Record of the Kern Red-wing.—An adult male Red-winged Blackbird (cf. C 590, collection of D. R. Dickey) taken by van Rossem near Corona, Riverside County, on December 8, 1915, is strictly comparable with breeding specimens from Walker Basin, Kern County, and indicates a possible winter range for the race *Agelaius phoeniceus aciculatus*. The bill measurements are as follows: Culmen from base 25.9 millimeters (plus about 1 mm. broken off); bill from nostril 17.5 (broken as above); gonys 16.0; width at base 9.5; depth at base 9.5. This specimen was submitted to Mr. Joseph Mailliard, who concurs with us in our determination of its status.

During a recent trip in Kern County, two days (August 31 to September 1, 1921) were spent at Walker Basin, but not one red-wing was seen. Neither were any in evidence along the Kern River between Onyx and Isabella, where the types of *aciculatus* were taken. This would argue a departure from the breeding grounds immediately after the nesting season. Just what the winter range of this form is will probably not be ascertained for some time. The total number of individuals probably does not anywhere nearly reach a thousand. Such a number would form a very small proportion of the swarms of red-wings wintering in the lowlands and the taking of one would be very much a matter of luck.—D. R. DICKEY and A. J. VAN ROSSEM, *Pasadena, California, November 26, 1921.*

Bird Fatalities Resulting from a Shipwreck.—During the night of October 25, 1918, the Canadian Pacific Steamer "Princess Sophia" was wrecked with total loss of life, on Vanderbilt Reef, Lynn Canal, Alaska, some forty miles north of Juneau. Quantities of heavy fuel oil escaping covered the water for miles about, finally settling on the beaches. It is the writer's theory that the great loss of life, some 343 persons, was largely occasioned by the escaping oil.

When patrolling the shores of Admiralty Island and adjacent waters in a small steamer on October 28, looking for bodies from the wreck, a Murre (*Uria troille californica*) was seen swimming towards the vessel, occasionally assisting its feet with its wings. On coming close it was seen that its breast was heavily saturated with oil, and the wings and other parts to only a lesser degree. The bird came to within a few feet of the boat, which was then drifting, frequently raising itself on the water, shaking itself, and flapping its wings in efforts to get rid of the oil, and occasionally preening its feathers with its beak. The bird seemed not only devoid of fear but actually to wish companionship or a stable place to rest. Threatening movements only caused it to dive a few feet away, barely under the surface of the water, which gave excellent opportunity to observe the use of the wings in assisting the feet in the diving. It was finally killed

with an oar, and on examination its plumage was found to be saturated with crude oil, particularly on the breast and wings. No injuries were in evidence and its plight was apparently due entirely to the oil.

Numerous other Murres were noted at no great distances, all more or less covered with the oil, which covered the surface of the water from a mere film to a heavy scum. The men who were patrolling the beaches for bodies of the wreck victims reported that there were many of "the same kind of birds" (Murres) dead and dying on the beaches, and frequently the searchers were startled by a bird still alive suddenly struggling and flopping about at their feet. Also, many gulls were observed to have stained breasts, but none were seen to be helpless. On October 30, when about 120 miles south of the scene of the disaster (near Cape Fanshaw), on a passenger steamer, the writer observed one gull with oil-stained breast join the ship for a distance. On January 1, 1919, at Wrangell, nearly two hundred miles south of the wreck, the writer observed a Glaucous-winged Gull (*Larus glaucescens*) walking about the streets, with a spot of discoloration about four inches in diameter on breast and sides that bore every evidence of being crude oil stain and quite possibly came from the wreck to the north in the preceding October.

The extent of the losses among the bird population due to this accident can not even be approximated, but it must have been considerable, as the wreck occurred a short distance north of waters much frequented by Murres, and prevailing winds and tides drove the oil southward for many miles. The twenty-three miles under observation on October 28 were from twenty-two to forty-five miles from the scene of the wreck with considerable shoreline intervening, so there is a good reason to believe that the fatalities to the birds that came under observation of the writer's party were but a small percentage of the total.—ERNEST P. WALKER, *Phoenix, Arizona, March 7, 1920.*

Number of Birds Described as New from California.—The undersigned has prepared a manuscript list of all the birds described from California. Species have been excluded where the type in all probability did not come from within the confines of the present state of California. Even so, it is found that 205 new names have been proposed for birds from California in the strict sense. But 45 of these specific or subspecific names have subsequently proven to be ill founded; in other words they are now considered as synonyms. Therefore 160 valid forms out of the total of 576 at this moment credited to the state list have been described from California—about 28 percent.

Furthermore, it is found that 51 different persons have participated in this sort of ornithological activity. As to responsibility of authors for new names: Grinnell has proposed 38, of which 6 are synonyms; Ridgway 28, with 8 synonyms; Oberholser 13, with 4 synonyms; Cassin 13, with one synonym; Vigors 11, with 4 synonyms; Baird 8, with 3 synonyms; Swarth 6, with no synonyms; Lawrence 5, with 1 synonym; Gambel 5, with 1 synonym; McGregor 5, with 1 synonym; etc. The rest of the 51 authors have named four or fewer real or supposed new forms.

It might be expected that the earlier describers, working at a time when "most everything was new" and when only "full species" were recognized, would have made the best "score", that is, the highest ratio of valid names to total names proposed. However, note that Vigors (1839) made but 63 percent, the lowest ratio among those who have proposed more than ten new names. The best score among those who have launched ten names or more was made by Cassin, 91 percent. A score of 100 percent is to be credited to Xantus, Henshaw, C. H. Townsend, Mearns, and Swarth, among those who have proposed from 3 to 6 new names. Is it to be inferred that the larger the number of names launched the greater the chances of slipping up?

There are numerous factors which enter into the game of species naming, upon which success will depend. Some of these factors are: availability of comparative material, knowledge of the literature, degree of development of the geographic sense, knowledge of plumages and of the meanings of variations, and discriminative acumen. While some of these may in more or less degree be matters of luck, yet in the long run personal qualifications like industry, concentrativeness and caution will figure largely. In systematics it is woefully easy, but forever a *dis*credit, to launch synonyms. There is far less excuse for it now, with abundance of material and well indexed literature, than

in the days of Vigors.—J. GRINNELL, *Museum of Vertebrate Zoology, Berkeley, California, December 5, 1921.*

The White Gyrfalcon in Montana.—A bird as rare in the United States as the White Gyrfalcon (*Falco islandus*) seems worthy of recording whenever found and correctly identified. The specimen under consideration I believe has not been put on record up to the present date. It was sent to Mr. Oscar Gard, of Seattle, Washington, by Mr. Geo. B. Daniels, of Fort Benton, Montana. Mr. Benton writes that he shot the bird on November 18, 1917, on Shonkin Creek, just east of the town of Shonkin and about twenty miles from Fort Benton, Montana. When shot it was sitting on a post of a wire fence in very open country. The bird was in an advanced condition of decay by the time it reached Mr. Gard, who nevertheless made it into a very handsome specimen and it is now in my collection. Unfortunately the sex was not taken, but the extremely large size leaves practically no doubt that it is a female. It is very white and must have been fully adult, and is unquestionably one of the most beautiful birds that I have ever seen.—J. HOOPER BOWLES, *Tacoma, Washington, November 7, 1921.*

A Specimen of the Markham Petrel.—Mr. Chas. Fagan, chief wireless operator on the SS. "Santa Elisa," W. R. Grace and Co., has forwarded to the Biological Survey a petrel that proves to be the Markham Petrel, *Oceanodroma markhami* (Salvin). The bird was captured July 6, 1921, at sea off the coast of Peru at a point approximately thirty-five miles north of the port of Callao. *Oceanodroma markhami*, very close allied to *tristrami*, is distinguished from that bird by shorter tarsus, smaller foot, and somewhat more ashy tinge of the back and head. It differs from *O. melania* in more slender bill and in the grayish cast of the dorsal surface. Measurements of the present specimen are as follows: wing 175.5 mm.; tail 95 mm.; chord of exposed culmen 18 mm.; tarsus 23.3 mm.; middle toe with claw 23.5 mm.; outer toe with claw 22.5 mm.

The Markham Petrel was described by Salvin (Proc. Zool. Soc. London, 1883, p. 430) from a female specimen taken by Captain Markham in December, 1881, near the coast of Peru at lat. 19° 40′ S., long. 75° W. (given incorrectly in the Cat. Birds Brit. Mus., xxv, 1896, p. 354, as lat. 10° 40′ S.). A second specimen, also a female, was secured in the same region at lat. 23° S., long. 73° W. Loomis (Proc. California Acad. Sci., 4th ser., II, pt. II, p. 174) records two taken by R. H. Beck, one on August 1, 1905, in lat. 13° 28′ N., long. 108° 52′ W., and another September 1, 1905, near lat. 5° N., long. 87° W., about thirty miles south of Cocos Island. Captain R. Paefsler (Journ. Ornith., 1913, p. 49; 1914, p. 277) has published notes on the occurrence of this species on the west coast of South America but apparently merely from sight observation (no mention is made of specimens) so that his notes must be considered as open to doubt. The specimen secured by Mr. Fagan is of great interest as it is the first Markham Petrel that has come to the United States National Museum, and seems to constitute the fifth example of the species that has been recorded.—ALEXANDER WETMORE, *Biological Survey, U. S. Dept. Agriculture, November 21, 1921.*

Possible Occurrence of the Blue-footed Booby in Southern California.—A *Sula* of this type was seen by Mr. Edward J. Brown and the writer, between Anaheim Landing and Sunset Beach, Orange County, California, on October 25, 1921. It came from the ocean and made a complete circle around us at a distance of about a hundred yards. While ordinarily opposed to the publication of sight records, it seems to me permissible in this case; for a bird exhibiting such striking coloration and flight could hardly be mistaken for anything else. No claim is made for admission to the state list of the above species as we, of course, cannot say further than that it was a black and white *Sula*. As *S. nebouxi*, according to the A. O. U. Check-list, breeds in the Gulf of Lower California, the bird probably belonged to that form.—A. J. VAN ROSSEM, *Los Angeles, California, November 5, 1921.*

Summer Record of Blue-winged Teal in California, and Notes on Other Birds.—On May 21, 1921, at Buena Vista Lake, Kern County, California, I saw a pair of Blue-winged Teal (*Querquedula discors*) the male of which I secured. On sexing it I found

the testes fully enlarged, indicating, though not conclusively, that the pair might have been breeding in the vicinity. Winter records of this duck are not common and I can find no previous summer record.

A pair of San Diego Song Sparrows (*Melospiza melodia cooperi*) was seen on February 8, 1920, carrying nesting materials into the center of a clump of honeysuckle vines growing on our side fence in the city of Los Angeles. The next day I examined the clump and found a nest nearly completed. The first egg was laid February 15. I did not look at the nest again until February 22, when I found the one egg and the broken empty shell of another. Soon after this, heavy rains came on and the nest was deserted. Nor did the sparrows attempt to use the nest again or the nesting site that year.

During a trip of two weeks, October 16 to November 2, 1921, down the coast from San Francisco to Los Angeles, I made stops of a few days each at Moss Landing, Monterey County, Pismo, San Luis Obispo County, Goleta, Santa Barbara County, and Point Mugu, Ventura County. It was interesting to note the great abundance of Red Phalaropes (*Phalaropus fulicarius*), but the unusual fact was the large numbers of sick, dead and dying birds. I shot birds of this species that appeared strong and active but, in most cases, they were as much emaciated as the dead ones I picked up on the beach.

At Ludlow, San Bernardino County, April 17, 1921, I observed in the course of an afternoon at a corral where there were a water trough and two or three small cottonwood trees, sixteen species of birds, among which were two pairs of the Lark Bunting (*Calamospiza melanocorys*), one pair of which I collected. This place is located deep in the Mohave Desert, but the water and a few shade trees seem to attract quite a number of birds.—CHESTER C. LAMB, *Los Angeles, November 22, 1921.*

Corrections of Errors in Pacific Coast Avifauna no. 14.—*Asio wilsonianus.* Long-eared Owl. On page 68, for "Stevensville, Ravalli County, April 14, 1912, 2 eggs," read Corvallis, instead of Stevensville.

Junco hyemalis mearnsi. Pink-sided Junco. "It has also been found . . . in the Bitterroot Valley in migration"; and "Corvallis, March 22, 1913" (page 128). This specimen was taken May 22 instead of March 22, which would bring it in the breeding season instead of in migration. The exact locality was eight miles east of Corvallis at 4500 feet elevation, in heavy yellow pine and Douglas fir forest.—BERNARD BAILEY, *Elk River, Minnesota, October 10, 1921.*

An Inland Occurrence of the Common Tern.—A male of the year of the Common Tern (*Sterna hirundo*) was taken by van Rossem at Victorville, San Bernardino County, California, on September 22, 1921. When shot, it was on a sandbar in the Mohave River, in company with a few Killdeers. No other terns were observed during the eight days spent in that vicinity.—D. R. DICKEY and A. J. VAN ROSSEM, *Pasadena, California, November 25, 1921.*

Burrowing Owl off the Virginia Coast.—While on depth-charge watch at night just out of Hampton Roads enroute to New York, October 22, 1918, I observed a small owl which for four hours flew about the quarter-deck of the vessel but eluded capture. The next morning a marine caught the bird perched on one of the depth-charges, and on examination it proved to be a Burrowing Owl (*Speotyto cunicularia*). It was very docile and eagerly gulped down pieces of raw beef fed by hand. As the marine wished to take it ashore as a pet I was unable to secure it, and though I positively identified it as a Burrowing Owl I could not determine its subspecific characters. One would, however, presuppose the Florida bird (*Speotyto cunicularia floridana*), rather than our western representative. At all events its appearance so far from its known range seems worthy of record even at this late date.—WM. DUNCAN STRONG, *Berkeley, California, November 30, 1921.*

Rare Birds in Arizona and New Mexico.—Harris Hawk (*Parabuteo unicinctus harrisi*). While on an auto trip through Arizona I took an adult male on the Superior Highway about fifteen miles east of Mesa, Arizona, on March 15, 1921. Three were seen together in the giant cactus association. I have never been able to find this species in southwestern New Mexico.

Heermann Gull (*Larus heermanni*). An adult male was brought to me on March 20, 1919. It had been found dead on Pinos Altos Mountain; nine miles north of Silver City. On making up the skin I found the bird to be in very poor flesh, and a small shot found in its body indicated that it had been crippled, probably on one of the small irrigation ponds south of here. Mrs. Florence Merriam Bailey advises me that this is a new record for New Mexico.

Great-tailed Grackle (*Megaquiscalus major macrourus*). I took an adult male May 24, 1920, on an irrigation pond on the Mimbres River, thirty miles southeast of here. No others could be found at this time or on several subsequent trips. Mrs. Bailey advises me that the only other records for the state are of a specimen taken at Las Cruces May 15, 1913, and a report of a pair nesting at La Mesa.

Chimney Swift (*Chaetura pelagica*). A female was taken May 22, 1921, on the Mimbres River, thirty miles southeast of here, in Luna County. It was flying alone at about six P. M. Wing measures 127.1 mm., and tail 42.4 mm. I am indebted to J. Eugene Law for identification and measurements.—R. T. KELLOGG, *Silver City, New Mexico, October 24, 1921.*

Notes on the Voice of the California Screech Owl.—The following notes and observations were made in the vicinity of Palo Alto, California, from June 1 to November 1, 1921.

The California Screech Owl (*Otus asio bendirei*) is a very tame and friendly bird. At times one can be approached to within arm's length. One curous fact is that when a light is put full in the face, at distances ranging from five to twenty feet, the bird does not seem to be in the least blinded, but looks over and past the light, and stares at the face of the observer. The eyes do not ordinarily glow, but are very distinct, the pupil and iris standing out in strong contrast. On only one occasion have I seen this rule broken. The owl in this case was within five feet, and on the same level with the light. It looked steadily at my face, over the light, but its eyes glowed with a soft honey color.

I have divided the calls under six separate headings, but there are a great many more, as they shade off into each other a good deal. The six noted here, however, are always clear and distinct. The first is the familiar, soft, quavering, "oo-oo-oo", known to nearly everyone. It is generally repeated steadily and monotonously. It seems to be a call of contentment, given when the bird is full fed.

The second is the same as the first, but with a soft whistling undertone, such as is produced by whistling with the edge of a card against the lips. I have heard this call only during the breeding season. It seems to be used to call another bird. On several occasions I have found a pair of the birds sitting side by side, one of them, presumably the male, giving this call, while the other answered with a sharp whistle. The two calls were exchanged, back and forth, for some time as though the birds were carrying on a conversation.

Number three is a liquid, clucking, "prit, prit", which seems to indicate curiosity. It is sometimes accompanied by a snapping of the beak. One bird swooped at me on several consecutive nights, going over my head and snapping his bill fiercely as he passed. I finally turned my light on him when at the bottom of his swoop and within arm's length, which seemed to disconcert him, as he flew into a neighboring tree and began to cluck and snap his beak.

The fourth is a loud clear scream, a most blood-curdling sound. It may be said to resemble the screeching of an enraged cat. I have heard it on only one occasion. It was repeated several times on the night of August 7, 1921, though whether by the same individual each time I could not determine. When I approached the tree from which the screaming came, the owl dropped into the inquiring, "prit, prit".

Number five is a guttural croaking, sounding exactly like the croaking of a heron. I have heard this call on only two occasions. The first time I was unable to get my light on the bird, and thought it a night heron, but the second time I saw the owl plainly. The call consists of only a single note.

The sixth is a high pitched, whining note resembling the crying of a puppy.

The first three calls are the most common. In fact after midnight there is nearly always an owl within hearing giving one of the calls. They can and do change from

one call to another and back again. During the breeding season they do not seem to have any regular hunting ground, but when the young are grown they become solitary, and do not go very far from home. Although they are very plentiful and I have spent much time in observing them, I have never been able to find a nest, or the hole of a solitary individual. They make good pets, eating raw meat, or mice, and becoming quite tame. When irritated they make comical efforts at defence, throwing themselves on their backs, snapping their beaks and grasping with the claws. They are too small to be serious antagonists, however. One which I kept for some time would "sing".—PAUL BONNOT, *Stanford University, California, November 7, 1921.*

Early Nesting of the Tricolored Blackbird and Mallard.—At Walker Basin, Kern County, California, on April 2, 1921, van Rossem made note of the following nestings which so far antedate anything published that a record of them is in order.

Agelaius tricolor. Colony of about twenty pairs in an old dead tule patch. From one fresh to four eggs incubated were noted, and one female was seen carrying food, probably to small young.

Anas platyrhynchos. Nest with eight apparently fresh eggs in a clump of grass near the small stream which winds about and through the meadow.

These dates would be early even for the lowlands, but seem extraordinarily so for this mountain meadow where the temperature was close to freezing at night, and where several inches of snow fell on the night of the 3rd of April.—D. R. DICKEY and A. J. VAN ROSSEM, *Pasadena, California, November 25, 1921.*

A Correction: Brewer Blackbird Not Occurring in Northern British Columbia.—In the Condor for March, 1919 (vol. 21, p. 33), under the title of The Summer Birds of Hazelton, British Columbia, I recorded the common nesting and the taking of two specimens of the Brewer Blackbird (*Euphagus cyanocephalus*). At the instigation of Mr. H. S. Swarth, I recently re-examined these birds. They consist of an adult male and a young bird in post-juvenile plumage. The adult is worn and dull and shows more purple reflection on the head than is usual in the Rusty Blackbird. The juvenile shows no indication at all of the rust so characteristic of the first winter plumage of that species. The measurements, however, are plain, and, in spite of superficial resemblances to *cyanocephalus*, I am compelled to reconsider my first too hasty conclusion and re-identify both birds as Rusty Blackbirds (*Euphagus carolinus*). There is, therefore, at present no record of the Brewer Blackbird in that section of British Columbia. In extenuation of my apparent carelessness I would like to state that at the time of writing the above paper the Rusty Blackbird had not been recorded as breeding in the Province and its occurrence there was unexpected.—P. A. TAVERNER, *Ottawa, Ontario, November 21, 1921.*

A Pigmy Owl Bathing.—On September 28, 1921, while camping at the easterly end of Kneeland Prairie, Humboldt County, California, in company with Mr. Chester C. Lamb, the latter came in from a tramp in the woods with the report that he had seen a Coast Pigmy Owl (*Glaucidium gnoma grinnelli*) taking a bath. He described the bird as standing on the edge of a small cattle trough beside the trail and going through the process of ablution in about the same manner as any other bird. The trough was full to the brim and the little owl was dipping and dabbling in the water, finally shaking itself and preening its feathers. Later the bird was secured and proved to be a male still in partial moult, with few but pin-feathers on the throat.

Several ornithologists to whom I mentioned this matter said that they had never before heard of an owl bathing and had never accredited this bird with a desire for such a performance. Mr. Chase Littlejohn tells me, however, that at one time he had several Barn Owls (*Tyto pratincola*) in captivity for a short period and discovered that they were very fond of a bath. They were kept in a rather dark place to which they quickly grew accustomed, soon becoming quite tame. He used to watch them a good deal, to study their habits and attitudes, and frequently saw them bathing in a large vessel of water maintained for their use. Apparently they bathed every day; for if there were days in which he did not actually see them bathe he almost invariably noticed some sign of their having done so, either in the way of wet feathers, water on the floor, or at least some token.

Possibly owls usually bathe at night when no one would be likely to see them, which may account for our lack of knowledge on this point.—Joseph Mailliard, *California Academy of Sciences, San Francisco, December 5, 1921.*

The California Brown Pelican in the State of Washington.—The status of the California Brown Pelican (*Pelecanus californicus*) in the state of Washington seems, hitherto, to be founded altogether upon sight records and one or two mounted specimens that are supposed to have been collected in the state. The sight records were made by Suckley and other old time observers, while the mounted birds are even more uncertain, if possible, for proper scientific work.

It is with pleasure, therefore, that I am able to place on record a fine example of this bird that was turned over to me in the flesh a few days ago. It was collected on October 30, 1921, by Mr. Roger Evans, of Kapowsin, Washington. The locality was Lake Kapowsin, which is situated among the eastern foothills of the Cascade Mountains, and about one hundred and twenty miles from the Pacific Ocean. It was alone and no more were seen; neither have I had any other reported from elsewhere. The appearance of the bird so far from salt water may be accounted for by the fact that an unusually severe storm of several days duration took place just prior to its capture. Mr. Evans very kindly turned the bird over to us for the use of science, and it is now in the collection of Mr. D. E. Brown, in Seattle, Washington. It is an immature male, and presumably a bird of the present year.—J. Hooper Bowles, *Tacoma, Washington, November 7, 1921.*

The "Anthony Vireo" Not a Tenable Subspecies.—*Vireo huttoni obscurus* Anthony has held its place as a valid subspecies in both the second (1895) and the third (1910) editions of the A. O. U. Check-List. Also Ridgway recognized it in Part III (1904) of his Birds of North and Middle America.

In April, 1921, I had the chance of examining the type skin of this supposed race in the ornithological collection of the Carnegie Museum at Pittsburgh. This type, apparently not hitherto recorded, is now no. 16981, Carnegie Mus.; female; Beaverton, Oregon; March 20, 1890; orig. no. 2671, A. W. Anthony. I compared it with the other material in the Carnegie collection, and came to the conclusion that the name *obscurus* does not apply to a tenable race.

It happens that this same conclusion had been come to by Rhoads years ago (see Auk, x, July, 1893, pp. 238-241). And it seems, according to Rhoads, that Anthony himself had come to doubt the validity of *obscurus*. It is curious that these circumstances did not seem to weigh against the acceptance of the name in the 1895 A. O. U. Check-List.

Anthony, in his original description of *obscurus* (Zoe, I, December, 1890, pp. 307-308), was, I think, misled by the seasonal conditions of coloration. The "rich suffusion of olive and yellowish tints" emphasized as the main character of *obscurus* is common to birds in fresh, or at least unfaded, plumage from throughout the range of *Vireo huttoni huttoni*. Those vivid tints are fugitive, and they go fastest and most completely in sunny as compared with cloudy climates; there is geographic variation in rate of fading (see Grinnell, Auk, XIX, April, 1902, pp. 128-131). Southern California birds lose the "blush" of the new plumage sooner and more completely than birds of western Oregon. But as far as I can now see, from a repeated examination of the extensive material in the Museum of Vertebrate Zoology, the intrinsic color tone is very nearly the same all the way from Washington (a bird at hand from Tacoma) to San Diego County, California. I was misled in precisely the same way Anthony was, when I described the supposed form *mailliardorum* from Santa Cruz Island (see Condor, v, November, 1903, p. 157), and evidently Bishop was similarly confused when he named *oberholseri* (Condor, VII, September, 1905, pp. 142-143) from San Diego County!

Now, Rhoads (loco citato) did not stop with showing that *obscurus* was untenable; he described a new race of his own, *insularis*, from the southern end of Vancouver Island. He had but three specimens, two of which he made the "types". These, as compared with *huttoni*, he describes as showing "over the whole plumage" a "sooty suffusion". I am tempted to suggest that these may have been town-smoked birds. Hutton Vireos from Vancouver Island are notably rare in collections. In the Museum of Vertebrate Zoology there are but two, both from Victoria. Both are dark as compared with

Monterey *huttoni*; but both look to me to be smoked. I wouldn't care to rest the case for or against *insularis* on this scanty material. But before this name is given formal recognition by the A. O. U. Committee on Nomenclature, perfectly fresh, unfaded material should be available in fair quantity.—J. GRINNELL, *Museum of Vertebrate Zoology, Berkeley, California, December 5, 1921.*

Some Hawks of Harney Valley, Oregon.—My work in the United States Biological Survey has taken me into Harney County, Oregon, several times during the last two years. On every visit I have been impressed by the abundance and variety of hawks in this district, and I have kept rough notes regarding these birds. A few of these notes are presented. In 1919, for a week beginning September 12, there was an amazing mixed flight of hawks in which Cooper Hawks, Prairie Falcons, and Duck Hawks were conspicuous. During this week, I saw at least a dozen Duck Hawks, more than equal to all of my other records. The following notes were made during these trips.

Turkey Vulture (*Cathartes aura septentrionalis*). Turkey Vultures were common in the valley, but my attention was particularly drawn to them during August, 1919, when trying summer poisons on jack rabbits. Such numbers of vultures, ravens, crows, and magpies descended on the fields where the poisoning operations were carried on as to make it necessary to reach there before daylight in order to count the poisoned rabbits. From fifty to one hundred each of ravens and vultures usually arrived by daylight, accompanied by several times that number of crows and magpies.

Marsh Hawk (*Circus hudsonius*). Marsh Hawks have been common and even abundant on each of my visits to the valley. I have often seen them worrying the jack rabbits but have yet to see them catch one.

Sharp-shinned Hawk (*Accipiter velox*). A few of these little hawks were included in the flight of September, 1919.

Cooper Hawk (*Accipiter cooperi*). This species was one of the most conspicuous in numbers in the September flight mentioned above. Most of those observed were not yet in adult plumage. They were astonishingly tame, sitting on fence posts and telephone poles while we drove by in a car. While the larger hawks frequently do this, my previous experience with this species has been entirely to the contrary.

Western Red-tail (*Buteo borealis calurus*). This is a common species, found on every visit to the valley.

Swainson Hawk (*Buteo swainsoni*). This is the most common species in the valley. On May 24, 1920, twenty-seven Swainson Hawks were counted sitting on the posts along one side of a small alfalfa field near Burns. Several had Oregon ground squirrels in their talons and most of them seemed to be resting after a hearty meal. The field was swarming with squirrels, and catching all that was necessary for food was apparently an easy task for these hawks.

Rough-legged Hawk (*Archibuteo lagopus sancti-johannis*). A few of these hawks were seen on October 24-30, 1920. Judging from the number observed in adjoining districts during the winter they probably increased considerably later in the season.

Ferruginous Rough-leg (*Archibuteo ferrugineus*). On May 24, 1920, Stanley G. Jewett and myself saw at close range an adult hawk of this species, the only one noted in the valley at any time.

Golden Eagle (*Aquila chrysaetos*). Golden Eagles are common in Harney Valley, and abundant compared to their number in any other district with which I am familiar. I have had as many as five in sight at one time. On September 13, 1919, I watched two in pursuit of five Canada Geese. The eagles were considerably behind and high above the geese, which were making frantic efforts to reach a pond known as Potter Swamp. The eagles were gaining rapidly, but all disappeared over a ridge before the chase was finished. A few days after this, three were seen harrying a jack rabbit which they caught and killed; all three were near the dead rabbit when we passed along the road in a car. On October 26, 1920, two eagles and a number of magpies were found feeding on poisoned rabbits.

Prairie Falcon (*Falco mexicanus*). This hawk is common in the valley and was particularly so during September, 1919. One female followed our car along the road for some distance until finally killed by a well-directed shot. Apparently, she was after the birds flushed by the car from the sage brush along the road.

Duck Hawk (*Falco peregrinus anatum*). About a dozen Duck Hawks were seen during the September flight. On the thirteenth, a flock of Cinnamon Teal whizzed past my head as I stood on the bank of Silvies River. They were traveling at a terrific rate of speed, but not until they had passed did I see the Duck Hawk close behind. Within a few seconds after passing me it struck one of the teal, and made for a nearby cliff with its victim. On August 24, late in the evening, while with a companion trying to secure a yellow-headed blackbird, a Duck Hawk darted viciously into a flock of blackbirds. As it was about to strike, it saw me and swung over my companion who brought it down as it passed overhead. It proved to be a fine adult male.

Pigeon Hawk (*Falco columbarius columbarius*). An immature female bird was secured on September 16, 1919, as it flew over.

Desert Sparrow Hawk (*Falco sparverius phalaena*). This is very common during September and October; it is less so in May and June, but is in evidence along the roads every day.—IRA N. GABRIELSON, *Portland, Oregon, October 24, 1921.*

The Validity of the Catalina Island Quail.—A series of sixteen quail from Catalina Island, of which thirteen are winter and three are fresh fall specimens, was recently examined by us. These bear out precisely the characters as given by J. Grinnell in his description of the form *Lophortyx* [*californica*] *catalinensis*, in The Auk, vol. 23, 1906, pp. 262-265. An additional character to which we wish to call attention is the wing formula of *catalinensis* as compared with *vallicola*. In *catalinensis*, the seventh primary is longest in thirteen out of the sixteen (or 81.25 percent), and the seventh and sixth are equal and longest in the remaining three (or 18.75 percent). The eighth primary is equal to or longer than the fifth in exactly the same high proportion. In a series of seventeen *vallicola*, from the San Diegan district, the seventh primary is longest in only three birds (or 17.65 percent), the remaining fourteen having the sixth, sixth and seventh, or fifth, sixth, and seventh longest. The eighth is equal to or longer than the fifth in only four (or 23.53 percent). It will thus be seen that the Island wing is the more pointed of the two. The wing formula of *L. californica californica* seems to be quite similar to that of *catalinensis*; but as most of our birds are moulting, we cannot be positive on this point.

Three birds from the southern San Joaquin Valley agree in some particulars of coloration with those from Catalina, namely, in color of flanks and broad striping on under tail coverts. However, the resemblance ceases here, for they are quite as small as the average *vallicola* from the San Diegan district (see Grinnell, Auk, vol. 23, p. 263). The one available quail from Los Coronados Islands (collection of H. Wright) has the small foot and bill of *vallicola*, but is too badly worn to give any comparative color values.

Catalinensis is a perfectly valid race and is quite as well differentiated from *vallicola* as is *vallicola* from *californica* proper. The pronounced characters preclude the possibility of artificial introduction, and it is difficult to understand why it has not been given equal standing with other insular forms, such as the horned larks and song sparrows, not to mention the San Clemente House Finch!—D. R. DICKEY and A. J. VAN ROSSEM, *Pasadena, California, November 26, 1921.*

Virginia Rail and Flammulated Screech Owl in the San Bernardino Mountains.—On July 16, 1921, and again on the 17th, a Virginia Rail (*Rallus virginianus*) was seen near the mouth of Rathbun Creek, Big Bear Lake. It was feeding in marshy ground beside the road, and when passed in an auto could be closely observed. When we returned on foot, however, we could not find it.

On July 17 and 18, both morning and evening, the peculiar, ventriloquial, notes of the Flammulated Screech Owl (*Otus flammeolus*) were heard in the vicinity of the I S Ranch, Big Bear Lake; and on the 19th and 20th we heard the same notes at the Fish Hatchery at the north base of Sugarloaf Mountain. We did not succeed in seeing any of the producers of these strange calls at either place, repeating our experience with this species at Dry Lake, July, 1920, where we failed on three evenings to catch sight of one. —JOHN MCB. ROBERTSON, *Buena Park, California, December 4, 1921.*

RECORD OF BIRDS BANDED

Bands: 6601-6611 45001-45005 45020 48120-48128 49001-49007 49379
28820 45007-45011 45617-45622 48161-48170 49010 55031

Mrs. Amelia S. Allen, at Berkeley, Calif. (date ?).
Hylocichla guttata (subsp.), (1) 49001. Baeolophus i. inornatus, (5) 45001-45005.

February 11 to March 29, 1919.

Chamaea f. fasciata, (3) 45007,-08,-20. Pipilo c. crissalis, (1) 49010.
Passerella i. (annectens ?), (1) 49002.

January 12 to June 23, 1920.

Carpodacus m. frontalis, (1) 45011. Zonotrichia coronata, (2) 49004,-05.
Chamaea f. fasciata, (1) 45010. Zonotrichia l. nuttalli, (2) 49006,-07.
Regulus c. (cineraceus ?), (1) 49009.

June 16 to October 31, 1921.

Troglodytes a. parkmani, (10) 48161-48170. Colaptes c. collaris, (1) 55031.

At Boulder Creek, Santa Cruz County, Calif., July 12, 1919.

Junco o. pinosus, (1) 49003.

H. C. Bryant, at Berkeley, Calif., February 23 to May 3, 1921.
Hylocichla guttata (subsp.), (1) 49379. Junco oreganus (subsp.), (6) 45617-45622.

J. E. Law, at Berkeley, Calif., October 28, 1921.
Melospiza m. santaecrucis, (2) 6606,-07.

At Los Angeles, Calif., September 25 to November 16, 1921.

Melospiza m. cooperi, (2) 28820, 48121. Zonotrichia l. gambeli, (15) 6601-6605, 6608-6611, 48123-48128.
Zonotrichia l. (nuttalli ?), (2) 48120, -22.

EDITORIAL NOTES AND NEWS

We wish to call especial attention to the "open letter to *Condor* contributors" which appears on the outside of the back cover of this issue. The Editors simply want the help of contributors in making an improved magazine. The *Condor* cannot grow in size very much, because of limited money resources, but it *can* be bettered in quality and scientific value, almost without limit. We invite vigorous coöperation in this regard; also constructive criticism from those of our readers who do not happen to be contributors of articles. Some very helpful suggestions have already come to us from such sources.

The reports of the Business Managers of the Cooper Ornithological Club, Messrs. Law and Chambers, for the year 1920 and for the half year to July 1, 1921, have been filed with the Board of Governors and with the Secretaries of the two Divisions. These reports go into great detail, so that every item of property, all sources of income, and all matters of expense may be learned with accuracy and ease. Space prevents reproducing any large portion of the figures here. Some selected ones, however, will doubtless prove of general interest. During 1920 total receipts (general fund) amounted to $2168.29; total disbursements, $2146.37. On July 1, 1921, the Club's endowment fund contained $3750, invested in government bonds. The statements indicate a healthy condition, with the burden of high war costs all but discounted without an increase in dues. In another year the war account promises to be wiped out.

A late book of unusual interest is "Early Annals of Ornithology" by J. H. Gurney (H. F. and G. Witherby, London, 1921, 240 pp., 36 ills.). It deals chiefly with British birds and consists of a collection of ancient references and accounts of birds from all sorts of sources, accompanied by critical comments and explanations. Among scores of interesting things we learn that, in the sixteenth century, herons were highly prized for the table, and also that a system of branding domestic swans was in common practice, which, although the beak was the portion of the bird marked, reminds us of the system of bird-banding in vogue today.

Recent articles in the *Condor* and elsewhere have dealt with the speed of flight in birds. It becomes clear that a great many extravagant figures in this regard have appeared in the older literature, and even modern books and articles in the sports and adventures class are full of wild statements.

Now, well attested, often accurately measured, observations are accumulating. A valuable summary of these is presented in a paper in the *Ibis* for April, 1921 (pp. 228-238), contributed by Colonel Richard Meinertzhagen, D. S. O., M. B. O. U. Much of the exact data was secured during the war when instruments of observation at anti-aircraft stations were employed and birds in flight used as objectives on which to practice. In conclusion, from all the data at hand, this author places the normal and migratory rates of flight, in miles per hour, of certain birds as follows: Corvidae, 31-45; smaller Passeres, 20-37; Starlings, 38-49; Falcons, 40-48; Geese, 42-55; Ducks, 44-59; tame Pigeons, 30-36; Waders, 34-51, but mostly 40-51. When pressed (aeroplane in pursuit), Golden Plover attained to 60 miles per hour; a Lammergeier (nose-diving) to 110 miles per hour.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

SEPTEMBER.—The regular meeting of the Northern Division of the Cooper Ornithological Club was held at the Museum of Vertebrate Zoology, September 22 at 8 P. M. President Wright presided and those in attendance were: Mesdames Allen, Bamford, Burk, Flinn, Grinnell, Mead, and Schlesinger; Messrs. Bell, Cooper, Evermann, Grinnell, Hunt, Johnston, McLean, Palmer, Storer, Taylor and Wright; visitors: Mrs. Bogle, Mrs. Evermann, Mrs. Hunt and Mr. Stow.

August minutes for Northern and Southern Divisions were read, the former being approved. Names proposed were Mrs. Sara S. Bogle, Berkeley, by Tracy I. Storer, and Miss Clare E. Johnson, San Francisco, by Mrs. E. D. Roe. Among the reports from the members who had spent vacation time in the open were: Notes on the Olympic Mountains by Dr. Walter P. Taylor; observations in southern Oregon, by Mr. R. H. Palmer; in Alpine County, by Mr. Richard Hunt; in the Tahoe region, by Mr. Storer and Mrs. Mead; at Cisco, by Mrs. Schlesinger; on Tuolumne Meadows, by Miss Flinn; in the Coulterville region, by Mrs. Grinnell; and in the Chiricahua Mountains, Arizona, by Mr. Donald McLean. Adjourned.—AMELIA S. ALLEN, *Secretary.*

OCTOBER.—The regular meeting of the Northern Division of the Cooper Ornithological Club for October was held on the evening of the 27th at 8 P. M. at the Museum of Vertebrate Zoology. President Wright was in the chair and the following members were in attendance: Mesdames Allen, Bamford, Bennet, Blake, Bogle, Burk, Flinn, G. T. Roe, Schlesinger and Wythe; Messrs. Carriger, Dixon, Evermann, Grinnell, Jos. Mailliard, McLean, Storer, Stow, Swarth, White, and Wright; visitors: Miss Davenport, Mrs. Evermann, Mrs. Storer, Mrs. Swarth, Mrs. White and Mr. Bunker. The minutes of the September meeting of the Northern Division were read and approved and the minutes of the meetings of the Southern Division in August and September were read. The following names were presented: Willard Fordyce Grinnell, Berkeley, by J. Eugene Law; Frederic C. Torrey, Berkeley, and Harry P. Stow, Alameda, by J. Grinnell; Dr. Robert Dill, Reno, Nevada, and Zola Zinn, Seattle, Washington, by R. H. Palmer.

The program for the evening was given by Mr. H. S. Swarth, who recounted many interesting ornithological experiences in British Columbia. Adjourned.—AMELIA S. ALLEN, *Secretary.*

NOVEMBER.—The November meeting of the Northern Division of the Cooper Ornithological Club was held on the 17th at the usual time and place. President Wright was in the chair, and the following members were present: Mesdames Allen, Boyle, Burk, Flinn, Grinnell, E. T. Mead, C. Meade, G. T. Roe, and Schlesinger; Messrs. Gignoux, J. Grinnell, W. F. Grinnell, Joseph Mailliard, McLean, Storer, Swarth, and Wright. Visitors: Mrs. Calder, Mrs. Evermann, Mrs. Fredericks, and Miss Sherman.

The minutes of the October meeting were read and approved, and the following names were presented for membership: Dr. G. Dallas Hanna, San Francisco, by Dr. Barton W. Evermann; Emily Dolores Laloge, Alameda, by Margaret W. Wythe, and Paul Fredericks Bunker, Berkeley, by H. C. Bryant.

Mrs. Fredericks of the California Botanical Society brought to the notice of the Club the law, recently passed, relating to the gathering and sale of toyon berries. Mr. Storer revived the question of the possibility of securing the adoption by the Berkeley City Council of an ordinance relating to the licensing of cats. It was decided to review the situation at the next meeting. Business concluded, Mr. Joseph Mailliard told of his experiences with birds in Humboldt County during the fall migration. Adjourned.—AMELIA S. ALLEN, *Secretary.*

For Sale, Exchange and Want Column.— Any Cooper Club member is entitled to one advertising notice in each issue free. Notices of over ten lines will be charged for at the rate of 15 cents per line. For this department, address W. LEE CHAMBERS, *Altadena, Los Los Angeles County, California.*

FOR SALE.—Used books on birds, mammals, exploration and hunting; or will exchange for books on big game hunting.—C. F. HEDGES, *Box 24, Miles City, Montana.*

WANTED.—A copy of the A. O. U. Check-List, First Edition, 1886.—FRED DILLE, *Valentine, Nebraska.*

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FOR SALE or EXCHANGE—Mounted birds, skins, eggs in sets and singles.—JESSE T. CRAVEN, *5315 Roosevelt Ave., Detroit, Mich.*

FOR EXCHANGE, for birds, mammals, books or cash: Baird, Brewer and Ridgway, 3 vols., Land Birds; Elliot, Wild Fowl of N. A.; Job, Among the Waterfowl; Reed, N. A. Birds' Eggs; Chapman, Warblers of N. A.; Barrows, Mich. Bird Life; Birds that Hunt and are Hunted; Bird Neighbors; Bird Homes; Notes on Cage Birds; Eckstorm, The Woodpeckers; biography of S. F. Baird. *Wanted*: Auk, 1884, 1885, 1903; Bull. Nuttall Orn. Club, entire; Baird, Mammals N. A.; early vols. of Condor; Rarer N. A. Faunas; cash or exchange.—A. B. HOWELL, *770 S. Pasadena Ave., Pasadena, Calif.*

WANTED.—Nuttall Bulletin, vol. I, complete; The Auk, vol. VI, no. 1 (Jan., 1889).—TRACY I. STORER, *Museum of Vertebrate Zoology, Berkeley, Calif.*

PERIODICALS WANTED.—Highest price paid for all or any part of the following: American Osprey; Bay State Oölogist; Bird Call; Bird News; Bird Notes and News (Wis.); Bittern (1890-91); Bittern (1900-01); Bull. Ridgway Ornith. Club; Bull. Vermont Club; Bull. Wilson Ornith. Club, Ag. Assoc'n; Canadian Ornithologist; Curlew; Exchange (1889); Feather; Gleanings from Nature; Gull; Hawkeye Ornith. and Oöl.; Hummer; Humming Birds (Sans Souci); Journ. Wilson Ornith. Chap. Ag. Assoc'n; Loon; Maine Ornithologist; Oölogist (Utica); Oölogist's Exchange; Oölogist's Journ.; Oriole; O. and O. Semi-Annual; Ornithologist (Wis.); Ornith. and Botanist; Our Birds; Owl (Glenn Falls); Owl (Chatham); Reports Meriden Bird Club; Semi-Annual; Stormy Petrel; Sunny South Ool.; Taxidermist; West. Oölogist; Young Ornithologist. Also for Am. Ornithology, vol. III, no. 3; Avifauna (1895), nos. 1 and 2; Birds and Nature, 1904 to 1914 incl.; Blue Bird, VI, VII; Bull. Mich. Ornith. Club, I, no. 1; II, nos. 3 and 4; Cassinia, no. 7; Iowa Ornith., II, nos. 1 and 3; Oölogist, all except XXX and XXXII incl., and except last two years; Ornith. and Oölogist, VI, nos. 2, 8, 10, 11, 12; Proc. Neb. O. U., all but first year; Warbler, 1904 and 1913; West. Ornith., no. 2; Wilson Bull., I to XIII and XXIII to XXXII all incl. State terms.—LIBRARIAN, *McGill University, Montreal, Canada.*

SEPARATES

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OPEN LETTER TO CONDOR CONTRIBUTORS

The building of a journal begins with the mechanical preparation of the copy by the author. This work may be so managed that it will later contribute toward accuracy of workmanship, dispatch in handling, and economy of production. Coöperation of author with editor, publisher and printer results in benefit to all four. The author secures creditable presentation of his ideas, the editor is relieved of needless drudgery, the publisher obtains the highest quality and best service for the amount expended, and the printer profits by the economy of time, effort and materials.

As regards the author, an important feature of his coöperation is to see that his *manuscript is as nearly as possible ready for delivery to the printer.*

The Condor is published by the Cooper Ornithological Club, and practically all the Club's money goes into the magazine. Articles published in *The Condor* are written by Club members. Poor copy for the printer results in poor proof, requiring repeated resetting of type and rereading of proof. *Resetting type costs money.* Money saved by good management in this regard may be expended toward a larger and better magazine. As an aid toward such economy the following rules and recommendations have been drawn up.

Rules

1. Manuscripts, if not typewritten, should be in *perfectly clear handwriting.*
2. Use one side of the paper only. *No circumstances allow of an exception to this rule.*
3. In typewritten manuscript *always leave double space* between the lines. In handwritten copy leave as much space as is occupied by the written line itself.
4. Liberal margins should be left at the top and sides of the sheets; at least 1¼ inches at the left side.
5. *The author* should *himself* prepare copy for titles, and, where needed, for sub-titles.
6. *The author* should *himself* prepare full and illuminating captions for illustrations.

Recommendations

It may be assumed that the author has used due care and thought in the arrangement of his material, in logical sequence of presentation, and in conciseness and clearness of statement. But before the manuscript is submitted it will be well to give it thorough revision as a whole. The excision of superfluous words and phrases, and of immaterial detail generally, will not only make for clearness and precision, but will also reduce the cost of publication appreciably. *Conciseness is particularly to be recommended in papers on technical subjects.*

Observe *Condor* style and usage, familiarize yourself with its leading features and prepare your paper accordingly. "General articles" and the brief "Field and Study" items are printed in different styles.

There are "manuals" published that give detailed instruction for the preparation of manuscript. Those who care to provide themselves with such aids will find them useful. Two such standard publications are the *Manual of Style*, issued by the University of Chicago Press, and *Suggestions on the Preparation of Manuscript*, by the University of California Press.

Respectfully submitted,

The Editors of The Condor.